UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
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February 12, 2015

John F. Ruhs
State Director
U.S. Department of the Interior
Bureau of Land Management
Southeastern States Field Office
411 Briarwood, Dr. Suite 404
Jackson, Mississippi 39206

Subject: Southeastern States Draft Resource Management Plan and Environmental Impact Statement (CEQ#20140311, EPR E65098-00)

Dear Mr. Ruhs:

The U.S. Environmental Protection Agency (EPA) Regions 3, 4 and 6 have reviewed the Draft Resource Management Plan (DRMP) and the Programmatic Draft Environmental Impact Statement (PDEIS) for the Southeastern States project. Our review is pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR §1500-1508) and Section 309 of the Clean Air Act.

This programmatic DRMP and PDEIS describes resource management alternatives for public lands in Arkansas, Louisiana, North Carolina, South Carolina, Tennessee and Virginia ("*planning area*"), including surface land and federal subsurface mineral estates where BLM has authority ("*decision area*"). In total, there are more than one million acres of federal mineral ownership in the decision area, including 2,991 acres of public domain surface tracts where BLM manages both the surface and mineral resources.

Based on the technical review from EPA Regions 3, 4, and 6, we have assigned a rating of *Environmental Concerns – Additional Information needed* (EC-2). An "EC" rating signifies that EPA's review of the DRMP/PDEIS has identified potential environmental impacts that should be avoided in order to provide adequate protection of the environment. A Category "2" signifies that EPA identified that the geographical scope of the impacts associated with the proposed actions warrants special attention within the spectrum of alternative analysis in the PDEIS. Please see the attached Summary of Rating Definitions and Follow up Action.

Our concerns are associated with the alternatives analysis, Environmental Justice, water resources, karst geology and species, air resources, climate change, and the tiering process for future site and resource specific NEPA analysis, and how it is associated with cumulative impacts across multiple resources within the decision areas of the nine states. We are also concerned with the decision making methodology used to determine biological ranking index and economic values used in the DRMP and PDEIS. The attached comments describe our

concerns in detail. We request that our comments be fully addressed in the Final Environmental Impact Statement (PFEIS).

Thank you for the opportunity to comment on the Southeastern States DRMP and PDEIS. We look forward to reviewing the PFEIS. If you have any questions, Please contact Larry Long of my staff at long.larry@epa.gov, 404-562-9460.

Sincerely,

Heinz Mueller, Chief
NEPA Program Office
Resource Conservation and Restoration Division

Attachments: EPA's Technical Comments
Summary of Rating Definitions and Follow up Action

Cc: Kimeka Price EPA-R6
Barbara Okorn EPA-R3
Jessica Trice EPA-HQ
Dawn Roberts EPA-HQ

EPA Technical Comments
For
Southeastern States
Draft Resource Management Plan
And
Programmatic Draft Environmental Impact Assessment

EPA Regions 3, 4, and 6, along with our technical associate reviewers, have reviewed the Draft Resource Management Plan (DRMP) and Programmatic Draft Environmental Impact Statement (PDEIS) prepared by the Bureau of Land Management (BLM) Southeastern States Field Office (SSFO). Our concerns and recommendations are as follows:

Project Description

The DRMP and PDEIS describe and analyze a range of management alternatives for public lands in Arkansas, Florida, Georgia, Kentucky, Louisiana, North Carolina, Tennessee, and Virginia. The "*Planning Area*" boundary includes all lands in these states, regardless of ownership or administrative jurisdiction. The "*Decision Area*" for the DRMP includes only BLM surface land and federal subsurface mineral estates where BLM has authority to make land use and management decisions.

Most of the land within the *decision areas* are mineral-estates, where the surface is either managed by an agency other than BLM or is in non-federal ownership. In total there are more than one million acres of federal mineral ownership in the decision area, including 742,505 acres where the surface is managed by other federal agencies and 280,680 acres where the surface is by non-federal ownership. There are also 2,991 acres of public domain surface tracts where BLM manages both the surface and mineral resources. The categories of federal mineral estates are collectively referred as "federal mineral ownership". There are 7,290 acres of lands with uncertain title. According to General Land Office records these public domain lands may have private claims of ownership. The DRMP does not make resource management decisions on these lands, but will be available for disposal to qualified applicants under Color-of-Title Act.

Programmatic Reviews

Agencies typically prepare programmatic analysis NEPA documents when there is a policy or strategy change that integrates national or regional analysis that are designed to establish comprehensive goals or objectives, or to integrate planning analysis for a fixed geographic area, or to provide resource analysis to determine future priorities for development, scheduling and setting controls for implementation of site-specific actions. The DRMP/PDEIS provides in the document's introduction "This DRMP and PDEIS describe and analyze a reasonable range of management alternatives for public lands in nine southeastern state; Arkansas, Florida, Georgia, Kentucky, Louisiana, North Carolina, Tennessee, and Virginia. The PDEIS provides information in reference to how the proposed RMP would be integrated into the resource management activities within the BLM designated *decision areas*. EPA acknowledges the size and scope of this project.

"Tiering" refers to an approach where federal agencies first consider the broad, general impacts of proposed program, plan, policy, or large scope project, or at the early stage of a phased

proposal, and then conduct subsequent, narrower, decision focused reviews. See 40 CFR 1502.20 and 1508.28.

Tiering addresses broad programs and issues in initial (Tier 1) or systems level analyses, and analyzes site-specific proposals and impacts in subsequent tier studies. Tiering refers to the coverage of general matters in broader environmental impact statements (such as national program or policy statements) with subsequent narrower statements or environmental analyses incorporating by reference the general discussions and concentrating solely on the issues specific to the statement subsequently prepared. Tiering is appropriate when the sequence of statements or analyses is plan, or policy environmental impact statement to a program, or policy statement or analysis of lesser scope or to a site- specific statement or analysis.

Recommendations:
EPA appreciates the level of work required to address the issues of this PDEIS. However, due to the large geographic area, number of resources to be managed and the diverse ecosystems, EPA recommends that additional NEPA analysis may be necessary as the project progresses to provide for a more site-specific, resource-specific, and geographical analysis. NEPA documents that provide more in-depth analysis within a designated temporal period should be based on the level of significance of the resource. EPA recommends that BLM provide a tiering process outline for future NEPA analysis of each resource listed in the report, and the outline be included in the PFEIS.

Alternative Analysis and the Preferred Alternative:
The EPA supports BLM in their efforts to develop and couple together the DRMP/PDEIS for the nine southeastern states. This project is an immense undertaking; subsequently, this programmatic project should provide specific instruction for implementing this program, due to diversity of the divergent ecosystems involved, and the magnitude, extent and duration of potential environmental impacts, coupled with consideration of reasonable mitigation measures.

Recommendation:
EPA recommends that the alternatives analysis be broadened to examine new, reasonably available alternatives that will reduce the significance of environmental impacts associated with the proposed action, that are consistent with BLM's policy to facilitate environmentally responsible projects.

BLM identifies Alternative B as the preferred alternative, while also stating that coal mining would have the same impacts as Alternative A, the "No-Build" alternative. Alternative B allows for the mining of coal, an action that is associated with environmental impacts. Additional discussion is needed in the FEIS to clarify how mining in Alternative B would have the same impacts as not mining in Alterative A.

Management Plan:
The decision area included 2,991 acres of Bureau of Land Management administered surface land and approximately 19 million acres of Federal land ownership. The Federal land ownership includes almost 10.3 million acres administered by the U.S. Forest Service (USFS), 3.7 million

acres by the National Park Service (NPS), 2.4 million acres by the U.S. Fish and Wildlife Service (FWS) and 2.5 million acres by the Department of Defense.

The *decision areas* include 1,026,176 acres made up of lands with federal government ownership of the mineral rights but not the surface lands (280,680 acres), and lands with the federal government owning both the mineral rights and the surface land (743,505 acres). There are four alternatives: Alternative A: No-Action (stay with existing management plans); Alternative B: (Preferred Alternative); Alternative C and Alternative D. There is a need for additional information to clarify how these numbers were developed. Some information may be a reflection on the average number of acres, wells and phosphate mines that were permitted over a five year period (example: average number of permits issued from 2008 through 2011).

	Alt A	Alt B	Alt C	Alt D
Acres available for fluid mineral leasing	1,025,286	1,025,046	1,025,046	1,025,231
Standard Terms	1,025,286	301,843	238,805	353,036
Moderate Constraints		112,276	94,049	136,465
Major Constraints		610,927	692,192	535,730
Closed to Leasing	890	1130	1130	945
Setbacks from surface water or karst features (in feet)		250/1000	500/1000	100/1000
Vegetation treatments (in acres)	Numerous site specific	2,776	2,836	Same as Alt A

The totality of cumulative impacts from BLM past, present and future actions combine with similar impacts caused by others to create cumulative impacts on natural resources within the planning area are of concern to EPA. The cumulative impacts are the same regardless of the alternative (pages 4-373 to 4-379). From these gross assessments, Alt C would be preferred due to the 82,000 acres of more major constraints and larger setbacks and vegetation treatments. Additional information is needed to explain where these setbacks and vegetation treatments came from, and why they were chosen.

Chapter 4, Vegetation requires additional clarification. The draft spends significant effort outlining the "Potential Impacts on Priority Plant Species from Oil and Gas Development". Within the draft discussion are State Listings and Natural Heritage Rankings. There is no discussion regarding why these were selected and why the Endangered Species Act was not addressed in the assessment. The draft needs additional or replacement language to assess the ESA vegetation, along with an alternative that deals with avoidance and minimization, without the existing reference to compensatory mitigation which is inconsistent with the 2008 Compensatory Mitigation rules. Specifically, the Florida discussion on pages 4-45 through 4-52 excludes language identifying the avoidance of obligate or facultative wet forested communities such as Bay Swamps, Cypress Swamps, Hardwood Hammock Forests, Hardwood Swamp and Shrub Swamp. The expected lease acres for these vegetation communities lacks an explanation on how these acres were identified and why. The exact acreage should be available if these lands

are already leased and there is an understanding that Mosaic Inc. will be mining these leased lands as part of their South Fort Meade mining efforts. Additionally, the draft needs to clarify that the Florida Department of Environmental Regulation requires the applicant to replace 1:1 the land uses impacted by phosphate mining, and a discussion why this replacement will or will not contribute to cumulative impact. Alternative C still remains the best alternative if the assumptions and buffers can be justified from a vegetative resource perspective.

Chapter 4, Alternative B suggests that only 66 acres would be available for disposal, because this acreage is too small to be effectively managed or have lower resource values. Approximately 150 acres could be transferred to other federal agencies expand their existing boundaries. Alternative C has the same tracks for exchange or transfer to other federal agencies that would be the same as Alternative B. Alternative D has smaller aquatic or karst buffers, so there would be more potential impacts from actual mining to reduced buffer water quality value. This would lead to increased impacts to existing land uses. Future information is needed on this discussion, due to the lack of any alternatives or minimization and the 1:1 replacement of all land uses as required by FDER.

Chapter 4, Fish and Wildlife has five assumptions:

1. Implementing an activity plan would result in increases of BLM management across all resources.
2. Without intervention, habitats on surface tracts would degrade.
3. Transferring tracts of federal ownership would result in land uses similar to those on surrounding private lands.
4. Aquatic species impacts are anticipated if the species occurs in the area.
5. Wildlife impacts could occur outside the lease area, as a result of directional drilling.

There needs to be discussions supporting the assumptions. There are positions that seem incongruent, specifically, with assumptions 2, 3 and 5.

Alternative A has existing protection provisions provided by the existing federal, state and local laws and regulations. The discussion on pages 4-107 through 4-149 should include the required 1:1 land use replacement required by FDER for phosphate mining.

Alternative B reflects the same transfer of land as identified in the vegetation discussions. The impacts are associated with the buffer of wetlands and karst lands (250/1,000 feet, respectively).

Alternative C reflects the same transfer of land as identified in the vegetation discussions. The impacts are associated with the buffer of wetlands and karst lands (500/1,000 feet, respectively).

Alternative D reflects the same transfer of land as identified in the vegetation discussions. The impacts are associated with the buffer of wetlands and karst lands (100/1,000 feet, respectively).

All of the alternatives require additional clarification as to how these points were determined. Once the additional information needed to explain where these setbacks and vegetation treatments came from and why they were chosen the alternatives can be better explained. Alternative C, could be considered the best alternative if the assumptions and buffers can be justified from a wildlife resource perspective.

Chapter 4, Special Status Species

This section needs clarification because the same ESA setbacks for wildlife species would apply across all four alternatives. Additionally, the foraging habitat associated with the riparian buffers from waters of the US is assumed to be better with the wider buffers (100, 250, 500 and 100, respectively for Alternatives A, B, C and D). This assumption needs to be documented as foraging for bats is at the edge of the forested or shrub areas with the open water of streams, rivers, lakes and reservoirs, not within the depth of the forested or shrub buffer. Additionally, the list of species is suspect, since the bald eagle is no longer listed as threatened or endangered.

The cumulative effects of the oil and gas leases within Kentucky and Tennessee on threatened or endangered species should include the background high erosion and sedimentation that occurs within the mussel and fish habitats. There should be a review of the existing impaired waters for each state and the area of the potential oil and gas permitting. The waters that are impaired for habitat loss and/or sedimentation should require greater best management plans, or a moratorium against additional oil and gas permitting, until the watershed can handle additional pollutant loads. The additional oil and gas permitting should not cause or contribute to existing water quality impairment. This additional discussion could be presented in a Non-point Source perspective chapter or sub-chapter discussion. This discussion should identify how the buffer widths may be inadequate as the slope of the topography increases and the erodability of the soil increases, as pertinent to the Appalachian Mountains.

<u>*Specific to VA*</u> – additional information should be provided analyzing the proposed activities and IBI areas. Page 4-84 states that 21 oil and gas wells are expected to be drilled on FMO at the John W. Flannagan Dam and Reservoir or at the Radford Ammunition Plant. Chapter 3 discusses species in the Important Bird Areas. Potential direct, indirect and cumulative impacts should be fully evaluated. Page 4-138 states potential impacts to several warbler species on the Breeding Birds of Conservation Concern list.

A few sections in the EIS indicate that the buffer could be extended, but does not indicate how often this would be done, and if it would be done and if the extension is protective (other than assuming a larger buffer is better). For example, at the top of Page 4-149 states that "… particularly given that the buffer could be extended up to 600 if the slopes are more than 10%".

> *Recommendations:*
> EPA requests that BLM address the issues presented with the management plan in the PFEIS. EPA supports the inclusion of buffers to minimize impacts to jurisdictional waters. However, EPA recommends that BLM clearly describe the buffer parameters in relationship to the type of water body, and to the special conditions that may exist by ecoregion/watershed, and that the PFEIS address the issue of buffers in the more systematically as to water quality requirements for each state by resource. Future site-specific EISs should address this issue in more depth.

<u>*Environmental Justice:*</u>

EPA acknowledges and supports BLM's desire to address Environmental Justice (EJ). BLM states that the goal of EJ is to provide fair treatment with respect to the development,

enforcement of protective environmental laws, regulations, and policies; and potentially affected community residents are meaningfully involved in the decision that will affect their environment and/or their health. Based on the PDEIS, EPA notes EJ populations exist within the proposed project area. However, the age of the demographic data provided for this analysis varies and is often not current, which may affect the EJ analysis. We also note that it is difficult to ascertain what the potential concerns and impacts to EJ populations are and to what degree they have been meaningfully engaged in the decision making process.

Recommendations:
To ensure that future NEPA analysis documents for projects within the *decision area*s, EPA makes the following recommendations; EPA recommends that site-specific NEPA documents be performed for each future project in the decision areas. Site specific analysis coupled with resource specific NEPA documents will provide BLM with a more comprehensive process for determining the projected impacts of future BLM projects to EJ communities in the *decision areas*. EPA also request that BLM use current demographic data in the PFEIS and all future EISs summarize EJ concerns, and describe efforts used to engage EJ populations in the decision-making process.

EPA also notes that there are many EJ screening tools available that may be coupled with local current demographic data that can provide a more applicable picture of the impacts of future BLM projects within the *decision area*. NEPAssist is a publicly available GIS based tools developed to accomplish this type of analysis. It draws environmental data from EPA databases and other applicable sources to provide immediate screening of environmental and demographic indicators for a user-defined area of interest. EPA also has access to other tools like EJSCREEN that may be used as part of this effort.

Tribal Consultations:
A complete description of the government-to-government consultation should be incorporated in the PFEIS, including correspondence to Tribal governments and other consultation related documents, to demonstrate fulfillment of Tribal consultation duties of federal agencies, and to exhibit the level of Tribal government engagement in the process. Many tribes hold land or have interest in land that may be directly associated with their present day geographic locations, for this reason government-to-government consultation is necessary to provide valuable cultural and natural resource information that a site-specific EIS would provide.

Recommendations:
Open consultation with state agencies and tribal governments provide for greater communication on cultural resources and associated Native American issues, that may present additional concerns after the PDEIS has been completed. Early and open communication with tribal governments provide avenues for conflict prevention, and provides all parties with the opportunity to improve relationships. EPA requests that a more comprehensive tribal consultation document be presented in the FEIS.

Economic Analysis:

Economic analysis for the management and use of natural resources is centered on the cost associated with the market value of the resource. Applying the concept of using economical evaluations, such as the cost-benefit analysis based solely on market values to justify the impacts of specific environmental projects, can present a disproportionate economic value to disadvantaged communities. A more balanced approach that is geographically based and that is more inclusive of both positive and negative socio-economical costs may provide for a clearer representation of the cost associated with future NEPA documents.

EPA appreciate the amount of work BLM has performed in preparing this PDEIS economic analysis. However, the data presented in the document is not current, and not consistent throughout all of the nine states, and therefore not truly representative of potential local direct and indirect economic impacts to communities within the "*decision areas*", or communities adjacent to the decision areas that might be impacted from the actions of managing that specific resource. The economic analysis is a very important section of the document from which conclusions may be drawn. Properly presented, the economic analysis provides the reader with information for the evaluation of direct and indirect economic impacts associated with future projects. A full disclosure of the decisional mechanisms for determining economic analysis should be presented specific to the resource with respect to the affected communities, and include a balanced approach that includes all associated costs.

Recommendations:

EPA recommends that future or tiered NEPA documents provide a consideration of not only market values, but also includes social economic costs analysis, such that are representative of changes in ecosystems function, reduced recreational opportunities, human health, children's health, aesthetic changes, and impacts to the local communities and endangered species, performed in site-specific NEPA documents within the *decision areas* of the nine states. EPA requests that a more representative and comprehensive economic analysis be provided in the PFEIS. Due to the number of different resources and the large divergent geographical areas, additional site-specific NEPA review and documentation are needed. Future NEPA analysis should take place, as appropriate, as the project progresses to address specific impacts to affected areas and local communities.

Natural Resources Alternatives Analysis:

Alternative B is BLM's preferred alternative. The PDEIS states that Alternative B would provide opportunities to use and develop resources within the *decision area*, while providing protection of natural resources. The alternatives are designed to address key planning issues in the Planning Area (P 2-1). Alternative A does not state if the analysis is for the *Planning Area* or the *decision area*. Alternatives C and D do not state if the analysis is for the *Planning Area* or the *decision area*. Alternative B does state that Alternative B provides the opportunity to use and develop resources within the *decision areas*. The Alternatives also states that the management of coal leasing would be the same as Alternative A (no build alternative). We note that the *Planning Area* is much greater than that of the *decision area*. Therefore, there seems to be an inconsistency in the analysis of the alternatives. The analysis of alternatives should be consistent for all alternatives. The alternative section of the document cross-references the alternatives with

each other, but is unclear regarding whether the document is speaking to the *decision area* or to the *planning area* with certain resources.

Recommendations:
EPA recommends that the alternatives clearly specify whether the analysis is directed toward the *decision areas* or the *planning areas*. For this reason, EPA recommends that future resource NEPA analysis be performed be site and resource specific. EPA requests that the FPDEIS clearly address the issue of whether the alternatives address the *decision area* and/or the *planning area*.

Water Resources:
This RNP/EIS document, as presented, provides for multiple resources being managed in multiple geographic settings, with multiple state environmental and regulatory agencies that address water resource issues broadly to that state's ecoregion/watershed. EPA acknowledges that providing water analysis for nine states that are ecologically, geographically, geologically, hydrologically and regulatory diverse is a formidable task. Each state has unique resource attributes that are not addressed in the broad analysis of this programmatic document. Additional NEPA review and documentation should take place, as appropriate, for site-specific water issues, as the project progresses.

An example of a unique water resource exists in Florida and southern Georgia, and adjacent parts of Alabama and South Carolina, that is, an aquifer system known as the Floridan Aquifer System, which is the source of some of the largest groundwater supplies in the United States.[1] The Floridan Aquifer System consists chiefly of limestone, and the geologic formations comprising the Floridan Aquifer System are at or near the surface in belts approximately parallel to the Fall Line in Georgia and adjacent parts of Alabama and South Carolina. Additionally, these formations are at or near the surface on some geologic structural features, e.g., the Ocala uplift in north-central Florida and on the Chattahoochee anticline in western Florida. Jointing and faulting on the Ocala uplift facilitated the formation of many solution cavities in the Ocala Group formation of the Florida Aquifer System, especially where they are at or near the surface. Sinkholes and vertical shafts extend from the surface to underground solution channels in some of these areas. The Floridan Aquifer System has cavities and solution channels thought to be comparable in size and extent to those in Mammoth Cave, KY. Under artesian conditions, the Floridian Aquifer System functions chiefly as conduits moving water many miles from recharge to discharge areas. The Floridian Aquifer is the source of nearly all the artesian water in Florida and southeastern Georgia. It yields water to thousands of artesian wells. It is the source of the large springs in Florida and Georgia. For example, Silver Springs and Rainbow Springs in Marion County are the largest with a combined flow of 2,310 cubic feet per second.[2]

Anthropogenic (man-made) changes in the karst environment can activate or accelerate the processes, such as dissolution and subsidence, involved in the generation of new or reactivating

[1] Stringfield, V.T., *Artesian Water in Tertiary Limestone in the Southeastern States*, Geological Survey Professional Paper 517 (1966), p. 1, available at http://pubs.usgs.gov/pp/0517/report.pdf
[2] Stringfield, V.T., Artesian Water in Tertiary Limestone in the Southeastern States, Geological Survey Professional Paper 517 (1966), p. 2, available at http://pubs.usgs.gov/pp/0517/report.pdf

previous subsidence sinkholes.[3] Human-induced sinkholes, particularly large water volume influx and/or extractions, including mining-related dewatering, constitute the vast majority of new subsidence depressions.[4]

For example, a study of induced sinkhole formation associated with the installation of a 36-inch diameter, underground, high-pressure natural gas pipeline using horizontal directional drilling technology in northern Hillsborough County, Florida, identified two mechanisms of induced sinkhole formation: erosion of weak zones in overburden soils by the high pressure drilling mud and/or erosion of weak, soil-filled conduits in limestone bedrock. Additionally, the study identified the potential for future ground subsidence associated with undetected eroded and unraveled zones that may, in the future, propagate to the land surface.[5]

Moreover, anthropogenic impacts to the karst are magnified by the climate of the area, which is characterized by typical natural cycles of drought and heavy rain, which facilitate the formation of karst collapse features, in the absence of human-induced landscape changes.

Florida's population is dependent upon ground water. Karst terrain constitutes the drinking water supply for ninety-three percent of Florida's population[6] and 100 percent for southwest Georgia. About 93 percent of Florida's population depends on groundwater for drinking water.[7]

Recommendations:

Partnering with the nine state environmental regulatory and natural resource agencies, and with the USGS will provide greater informational exchange. The USGS's extensive karst expertise will be able to assist BLM with the appropriate Karst delineations and impacts, including associated mitigation determinations, associated with BLM's proposed actions.

In future site-specific NEPA documents, BLM should discuss measures to avoid inducing sinkhole and other type karst features that may detrimentally impact aquatic ecosystems, agriculture, commercial, drinking and industrial water supplies, communities, infrastructure, hydrologic flow of surface water bodies and ground water, recreation, tourism, and water quality.

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[3] F. Gutierrez, et al, *A Review on Natural and Human-Induced Geohazards and Impacts in Karst*. Earth-Science Reviews 138 (2014) p. 66. Available at Science Direct.

[4] F. Gutierrez, et al, *A Review on Natural and Human-Induced Geohazards and Impacts in Karst*. Earth-Science Reviews 138 (2014) p. 67. Available at Science Direct.

[5] Smith, Ted J. and Sinn, George C., Jr., *Induced Sinkhole Formation Associated with Installation of a High-Pressure Natural Gas Pipeline, West Central Florida*, published in 13th Sinkhole Conference NCKRI Symposium 2 available at http://www.karstportal.org/sites/karstportal.org/files/KIP-00011809.pdf .

[6] Florida Department of Environmental Protection's Groundwater Program's website, see: http://www.dep.state.fl.us/water/groundwater/whatis.htm

[7] Additionally, over 50% of all other water needs including agricultural, industry, mining, and electric power generation are supplied by ground water resources. Ground water also serves as the source for Florida's many springs and provides a significant input to many of Florida's lakes and rivers. Source: Florida Department of Environmental Protections' Ground Water Program, see: http://www.dep.state.fl.us/water/groundwater/ .

BLM's impacts analysis should address karst impacts associated with construction, operation, and for later inducement of karst collapse features associated with fractures induced by activities included in BLM's PEIS.

Future NEPA documents should address in much greater depth the cumulative impacts associated with the management of specific resources, on water quality, wetlands and NPDES discharges. BLM could accomplish this task by including specialized federal agencies, such as USGS, with state regulatory and resource agencies as cooperating agencies for future EISs in the *Decision Areas*.

Karst Sensitive Species

Salamander

The Georgia blind salamander (Eurycea Wallacei) was originally described as Haideotriton Wallacei by Carr (1939) from a 60-m (200-ft) deep artesian well in Albany, Georgia. Currently, this species has no federal protection; however, it is state-listed in Florida as a Species of Special Concern and in Georgia as a Threatened species.[8] The specialized habitat, physiology, and life history of the Georgia blind salamander render it vulnerable. This species lives in caves and aquifers and is almost never seen above ground. The inaccessible habitat inhabited by this species (underground caves and springs) means that its true range is poorly documented. Furthermore, aquatic caves, springs, and underground streams face many threats, including altered hydrologic regimes.[9]

Crayfish

Dougherty Plain Cave Crayfish has been seen and collected in underwater caves and has also been collected from wells. Because this crayfish is a troglobite (an animal that lives entirely in the dark parts of caves), very little is known of its life history. Scuba diving in springs along the Flint River has also yielded specimens of this species. All records of the Dougherty Plain cave crayfish are from the Dougherty Plain physiographic province, a karst topography where springs, seeps, and caves have formed within the limestone geology. The species is currently known from Dougherty and Decatur counties in southwestern Georgia, and Jackson and Washington counties in the panhandle of Florida. It almost certainly occurs in Mitchell and Baker counties, Georgia, as these counties lie between Dougherty and Decatur Counties, in southwest Georgia. Small range size makes this species vulnerable to extirpation.[10] This species is often found associated with the Georgia Blind Salamander (Haideotriton Wallace). This species is listed as Rare and Critically Imperiled in Georgia.[11]

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[8] A Species Action Plan for the Georgia Blind Salamander, Eurycea Wallacei, Final Draft November 1, 2013, Florida Fish and Wildlife Conservation Commission, http://myfwc.com/media/2738825/Georgia-Blind-Salamander-Species-Action-Plan-Final-Draft.pdf

[9] A Species Action Plan for the Georgia Blind Salamander, Eurycea Wallacei, Final Draft November 1, 2013, Florida Fish and Wildlife Conservation Commission, p.6, http://myfwc.com/media/2738825/Georgia-Blind-Salamander-Species-Action-Plan-Final-Draft.pdf

[10] Dougherty Plain Cave Crayfish, http://www.georgiawildlife.com/sites/default/files/uploads/wildlife/nongame/pdf/accounts/invertebrates/cambarus_cryptodytes.pdf

[11] Dougherty Plain Cave Crayfish, Cambarus (Jugicambarus) cryptodytes

Air Resources:

All potential environmental impacts from air should be addressed by the applicable permitting authority through the various permitting actions, approvals, and studies, as required by state and federal regulations. Any prescribed burning should be done in accordance with all local, state and federal requirements, and consistent with applicable Smoke Management Guidelines for each state (e.g. Louisiana Smoke Management Guidelines). Mitigation measures, as applicable, should be included in order to reduce impacts associated with emissions of fugitive dust, particulate matter, and other pollutants from any planned construction-related activities.

Recommendations:

Fugitive Dust Source Controls:

- Stabilize open storage piles and disturbed areas by covering and/or applying water or chemical/organic dust palliative where appropriate at active and inactive sites during workdays, weekends, holidays, and windy conditions;
- Install wind fencing and phase grading operations where appropriate, and operate water trucks for stabilization of surfaces under windy conditions; and
- Prevent spillage when hauling material and operating non-earthmoving equipment and limit speeds to 15 miles per hour. Limit speed of earth-moving equipment to 10 mph.

Mobile and Stationary Source Controls:

- Plan construction scheduling to minimize vehicle trips;
- Limit idling of heavy equipment to less than 5 minutes and verify through unscheduled inspections; and

Maintain and tune engines per manufacturer's specifications to perform at EPA certification levels, prevent tampering, and conduct unscheduled inspections to ensure these measures are followed. EPA request that our air quality concerns be addressed in the PFEIS.

Climate Change:

The Council on Environmental Quality (CEQ) recently released revised draft climate change guidance that provides direction to agencies on considering the effects of greenhouse gas (GHG) emissions and climate change and reasonable ways to avoid, minimize and mitigate those impacts[1]. Several activities outlined in the RMP/EIS have the potential to have both direct and indirect impacts associated with climate change, specifically greenhouse gases. The Draft RMP/EIS determined that certain activities in the proposed action and its alternatives would contribute to GHG emissions while others would have a negligible impact to GHG emissions. However, quantitative estimates of GHG emissions were not provided. In addition, the cumulative impacts from the BLM-authorized activities were determined to be "negligible" in comparison with the estimated U.S. emissions of CO2 in 2006. While some activities in the

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http://naturalhistory.uga.edu/~GMNH/gawildlife/index.php?page=speciespages/ai_species_page&key=ccryptodytes

[1] http://www.whitehouse.gov/administration/eop/ceq/initiatives/nepa/ghg-guidance

proposed action were determined to have impacts to GHG emissions, mitigation measures were not considered to reduce GHG emissions.

Recommendations:

Consistent with CEQ's December 2014 revised draft climate change guidance, we recommend that the PFEIS:

- Quantify the potential GHG emissions associated with the proposed RMP if the emissions are expected to be greater than 25,000 metric tons of CO2-e emissions/year or if quantification would easily accomplished, and use those emissions as a proxy for climate change impacts.
- Not compare the proposed action's GHG emissions to total U.S. emissions, and instead include a more relevant frame of reference such as an applicable Federal, state, tribal or local goal for GHG emission reductions, if appropriate.
- Consider reasonable mitigation measures to reduce the level of potential GHG emissions.
- Acknowledge the programmatic nature of the RMP/EIS and provide a framework regarding how GHG and climate change issues will be addressed in future site and resource specific NEPA reviews.

SUMMARY OF RATING DEFINITIONS AND FOLLOW UP ACTION*

Environmental Impact of the Action

LO-Lack of Objections
The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC-Environmental Concerns
The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impacts. EPA would like to work with the lead agency to reduce these impacts.

EO-Environmental Objections
The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU-Environmentally Unsatisfactory
The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS sate, this proposal will be recommended for referral to the CEQ.

Adequacy of the Impact Statement

Category 1-Adequate
The EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collecting is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2-Insufficient Information
The draft EIS does not contain sufficient information for the EPA to fully assess the environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

Category 3-Inadequate
EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640 Policy and Procedures for the Review of the Federal Actions Impacting the Environment